SEMICONDUCTOR DEVICE AND ITS MANUFACTURE

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Abstract of **JP2000114527**

PROBLEM TO BE SOLVED: To manufacture a thin-film transistor excellent in electric property, fabricate a circuit by using it and make a semiconductor device to have high performance, by oxidizing a semiconductor film containing crystal to reduce the film thickness and performing laser annealing and furnace annealing. SOLUTION: First, a semiconductor film 102 and a nickel containing layer 103 are formed on a quartz substrate 101. It is heated at 550-650 deg.C to form a polysilicon layer 104, and it is annealed at 1000 deg.C for 30 minutes in the oxidative atmosphere in the furnace so as to reduce the film thickness, forming a thin polysilicon film 105. Next, a polysilicon film 106 which is formed by laser annealing using an excimer laser light is annealed in the furnace, and the obtained polysilicon film 107 with high crystallinity is patterned to form an active layer 108. Therefore, a circuit can be fabricated by such a TFT that has a semiconductor film as an active layer that has a crystallinity substantially equivalent to that of a single crystal, so that a high-performance semiconductor device can be realized.